

## IMPACT EVALUATION OF AGRICULTURE AND FOOD SECURITY PROJECT

*What is the impact of a multi-pronged household program on agricultural income, crop productivity, and nutritional status?*



### Nepal Agriculture and Food Security Project Details

**TOTAL FINANCING:** \$USD58 million

**IMPLEMENTING AGENCY:** Ministries of Agricultural Development (MoAD) and Health (MoH)

**PROJECT COVERAGE:** 19 districts

**NUMBER OF DIRECT BENEFICIARIES:** 162,000

#### AGRICULTURE AND LIVESTOCK

- Farmer Field Schools
- distribution of improved seeds and crop varieties
- improved management technologies
- improved goat and chicken breeds
- goat, poultry, dairy production programs

#### NUTRITION

- behavior change communication for nutrition and child health
- home nutrition gardens
- village model farms
- small grant support

### INITIAL RESEARCH FINDINGS

- Communities that were a part of the Nepal Agriculture and Food Security Project (AFSP) experienced an 18% increase in total income relative to control communities.
- Membership in Farmer Groups is associated with an increase of 11–20% relative to those who are not members.
- Farmers in AFSP communities experienced an 18% increase in income from livestock-rearing relative to control communities between baseline and endline.
- Households reporting food insecurity decreased between baseline and endline, but this effect was not specific to AFSP communities.

### Context

The Nepal Agriculture and Food Security Project (AFSP) aimed to improve the socioeconomic status of poor farmers by increasing agricultural production and improving nutritional practices. AFSP was funded by the Global Agriculture and Food Security Project (GAFSP), supervised by the World Bank, and implemented by the Ministries of Agricultural Development (MoAD) and Health (MoH). The AFSP included 19 districts of the mid- and far-western development regions, targeting 162,000 households in the hill and mountain areas.

### Impact Evaluation Research

The partnership between the Nepal Agriculture and Food Security Project (AFSP) and The World Bank's Development Impact Evaluation (DIME) team has spanned 5 years, 3 rounds of large-scale data collection and multiple consultations and results sharing events,

all aimed at understanding the impact and sustainability of the project's interventions.

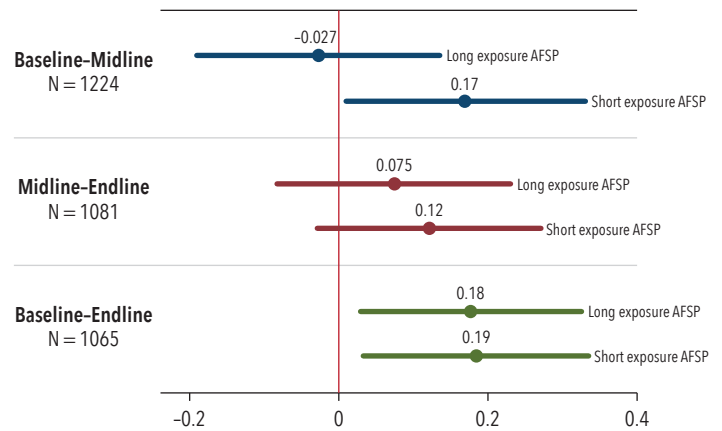
The AFSP Impact Evaluation (IE) uses a randomized phase-in of project components at the level of the Village Development Committee (VDC) to evaluate the impact of AFSP across a number of key indicators. Much of the analytical focus is based on the project's key goals of targeting food and nutrition security through increased farm productivity with a focus on crop cultivation and livestock-rearing. The impact estimates focus on aggregate household income as it succinctly captures the end-result of how farmers and livestock-rearing households translate inputs into income. Further, this IE dives into various indicators linked to income generation including production decisions, farmer group membership, input usage and expenditure and technology adoption practices, amongst others. Additionally, there is an investigation of how the program affected food security behavior and knowledge, alongside an examination of participation in health mother's groups.

The project delivered interventions through farmer groups — and these are one of the key areas of focus for the IE. The data shows evidence of higher participation in the farmer groups in AFSP communities as opposed to the control. 52.8% of farmers in control communities were never part of a farmers group, relative to 13.7% in AFSP communities. Dropouts from farmer groups in the control communities were also significantly larger than in treatment.

This evaluation suggests that AFSP brought about improvements in productivity and income for farmers across a number of key indicators. Increasing incomes by almost 20% represents a significant achievement for the project, and these effects persist over the medium run. This IE is less able to attribute overall improvements in food security and nutrition to AFSP.

## Policy Lessons

This IE finds that the AFSP communities had much bigger increases in income than the non-AFSP communities, but the increases in food security indicators were no bigger. Conventional wisdom suggests that food security and nutrition cannot be improved until the worst effects of poverty are eliminated and that income growth



### Treatment Effect (Short/Long Exposure) on Livestock (Ln) Income

Increase in livestock income was felt almost identically by AFSP communities, disregarding length of exposure in the long-run between the baseline and endline.

is a necessary prior condition for nutrition to improve. The results of this evaluation hint that this conjecture might not be true. The non-AFSP communities experienced nutrition and food security improvements, even without the income gains experienced by AFSP households. These findings indicate the need for further work in this context exploring the link between on and off-farm income and food security.

## Future Work

The government of Nepal and the GAFSP are planning a second investment in Nepal to build on the results of the AFSP project. The new project will involve regions other than the ones initially covered by AFSP, including earthquake affected zones. The approaches will also be adjusted, including for example, more of a focus on market linkages for producer organizations. Project preparation will benefit from the results and data made available by this impact evaluation. As an initial application of the AFSP evaluation data for planning, DIME has constructed a proxy means test (PMT) that can be used by the upcoming project to target its interventions, and the research team aims to continue engaging with the project team to build evidence and future learning.

For more information: <http://www.worldbank.org/en/research/dime/brief/agriculture>



Funding for this study is provided by both i2i and the Global Agriculture and Food Security Program (GAFSP). GAFSP is a program committed to making smart investments in sustainable and resilient food and agriculture systems, to improve the lives of poor farmers in countries across the globe. Through a key partnership with the Development Impact Evaluation (DIME) group at the World Bank, GAFSP has supported randomized evaluations of several projects in its portfolio.